

Section 6.3.nb

7. Find the altitude of an equilateral triangle if each side is 10 units long.

8. If the measures of the angles of a triangle are in the ratio 1 : 2 : 3, are the lengths of the sides in the same ratio?

Use the figure below to complete the exercise.

9. If $a = 8$, then $c =$ $8\sqrt{2}$

10. If $b = 2\sqrt{3}$, then $c =$ $2\sqrt{6}$

11. If $c = \sqrt{5}$, then $a =$ $\frac{\sqrt{10}}{2}$

12. If $c = 12$, then $b =$ $6\sqrt{2}$

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Section 6.3.nb

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Section 6.3.nb

Use the figure below to complete each exercise.

13. If $x = 10$, then $y =$ $10\sqrt{3}$ and $z =$ 20

14. If $y = 10$, then $x =$ $\frac{10\sqrt{3}}{3}$ and $z =$ $\frac{20\sqrt{3}}{3}$

15. If $z = 12$, then $x =$ 6 and $y =$ $6\sqrt{3}$

16. If $z = 4\sqrt{6}$, then $x =$ $2\sqrt{6}$ and $y =$ $6\sqrt{2}$

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Triangle Area - May 11

Use this triangle as a model for questions 1-7.

1) $a=10, c=20, b=\sqrt{300}$, Area = $10\sqrt{300} = 5\sqrt{300}$

2) $a=3, b=5, c=\sqrt{34}$, Area = 7.5

3) $a=10, c=18, b=\sqrt{124}$, Area = $5\sqrt{124}$

4) $b=12, c=17, a=\sqrt{145}$, Area = $6\sqrt{145}$

5) $a=4, b=8, c=\sqrt{80}$, Area = 16

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Use this triangle as a model for 8-12.

8) $a=10, c=10\sqrt{2}$, Area = 50

9) $c=12\sqrt{2}, a=12$, Area = 72

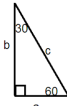
10) $a=5, c=5\sqrt{2}$, Area = 12.5

11) $c=40\sqrt{2}, a=40$, Area = 800

12) $c=10, a=5\sqrt{2}$, Area = 25

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Use this triangle for 13-20.



$c = 2a$ $c = 2b/\sqrt{3}$
 $a = c/2$ $a = b/\sqrt{3}$
 $b = a\sqrt{3}$ $b = c\sqrt{3}/2$

13) $a = 10$, $b = 10\sqrt{3}$, $c = 20$, Area = $\frac{100\sqrt{3}}{2} = 50\sqrt{3}$

14) $b = 12\sqrt{3}$, $a = 12$, $c = 24$, Area = $72\sqrt{3}$

15) $c = 40$, $a = 20$, $b = 20\sqrt{3}$, Area = $200\sqrt{3}$

16) $a = 4$, $b = 4\sqrt{3}$, $c = 8$, Area = $8\sqrt{3}$

17) $c = 8$, $a = 4$, $b = 4\sqrt{3}$, Area = $8\sqrt{3}$

18) $b = 5$, $a = \frac{5\sqrt{3}}{3}$, $c = \frac{10\sqrt{3}}{3}$, Area = $\frac{5 \cdot \frac{5\sqrt{3}}{3}}{2} = \frac{25\sqrt{3}}{6}$

19) $a = 14$, $b = 14\sqrt{3}$, $c = 28$, Area = $98\sqrt{3}$

20) $c = 44$, $a = 22$, $b = 22\sqrt{3}$, Area = $242\sqrt{3}$

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